for common sewing, when the screw L is adjusted against the arm B for the purpose of disconnecting the overstitch movement, and it is moved by the screw L.

The operation of my invention is as follows: By turning the screw K the play of the pawl D is regulated, according as the screw is progressed or receded, so as to vary the depth of the stitch, as required, to adapt it for fine or coarse work. The screw L, when turned inward to its farthest extent, bears against the arm B and holds it away from the pawl D, in which position the latter is not operated; but on the withdrawal of the screw the spring *c* holds the arm B in contact with the pawl, and adapts my improvement for operation. Motion being imparted to the machine, an up-and-down movement is given to the lever or rocking-bar A, which raises and lowers the arm B, connected with it by the screw *b*, so that when raised it abuts first against the notch on one side of the cam end of the pawl D, and when lowered is drawn down below the tongue *d''*, and when raised again abuts against the notch on the other side of the cam end of the pawl D, which is thus thrown back and forth at regular intervals, causing, in its forward movement, the dog *d* to impinge against one end of the notch *c*, and impel forward the slide E, which thus imparts to the feed-bar M a lateral movement. The backward throw of the pawl D, induced by the pressure of the top of the arm B on the inner notch of its cam end, causes the forward top portion of the pawl D to impinge against the end of the screw K and impart a backward movement to the slide E, which impels the feed-bar M backward, so as to carry the work back of, and allow the needle to descend over, the edge, where its loop is locked by the shuttle-thread, forming an overstitch, which may be varied in depth, according to the play allowed to the pawl D, which is regulated, as before stated, by the adjustment of the screw K.

These improvements may be applied equally as well to straight-needle or other sewing-machines, and, by increasing the size and strength of the parts, may be applied to and worked with equal facility on large machines for carpet and other heavy sewing.

The feed-bar may be operated to carry the work under and outside of the needle, in the desired manner, by any other arrangement of mechanical devices that may be preferred for producing the required result.

A herring-bone or pointed stitch may be formed by my improvements by feeding the cloth back and forth, so that the needle does not pass outside of it.

Having thus fully described my improvements, what I claim as my invention, and desire to have secured to me by Letters Patent, is—

1. The pawl D, turning on an arbor, G, and provided with the tongue *d''* and notches *d'* at its lower end, and the dog *d* at its upper end, the latter engaging with and operating the slide E of the feed-bar M, and combined with and operated by the arm B, substantially as described.

2. The lever A, provided with the pivoted arm B and interposed spring C, said arm being so arranged as to impinge alternately against the notched sides of the pawl D and oscillate the latter, thereby operating the slide E and feed-bar M, substantially as described, for the purpose specified.

3. The lever A, provided with the pivoted arm B and interposed spring C, in combination with the screw L, substantially as described.

4. The combination of the screw K, frame H, pawl D, slide E, and feed-bar M, all arranged and operating substantially as and for the purposes specified.

5. The combination of the spring *h*, frame H, screw L, arm B, pawl D, and slide E, all arranged and operating substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HELEN A. BLANCHARD.

Witnesses:
CARROLL D. WRIGHT,
SAML. M. BARTON.